

WHAT IS CLAIMED IS:

*Sub B1* 1. A medical injection device, comprising:  
an injection mechanism including an actuator for setting the  
dosage and administering an injection of a medication contained  
5 within the injection device;

a processor coupled to the actuator of the injection  
mechanism to determine a value equal to the dosage set by the  
actuator of the injection mechanism; and

10 a memory device coupled to the processor to store the value  
equal to the dosage determined by the processor.

2. A device according to claim 1, further including a  
receptacle capable of holding the medication, wherein the  
injection mechanism further includes a drive mechanism coupled  
15 between the actuator and the receptacle to inject the set dosage  
of the medication, and wherein the actuator of the injection  
mechanism triggers the drive mechanism to administer the  
injection of the medication held in the receptacle.

20 3. A device according to claim 1, further including a  
display device coupled to the processor to display the value  
equal to the dosage determined by the processor.

25 4. A device according to claim 3, further including a  
clock circuit coupled to the processor for determining the time,  
wherein the time is stored in the memory device with the value  
equal to the dosage determined by the processor, and wherein the  
time is displayed on the display device.

30 5. A device according to claim 4, wherein the clock  
circuit further includes means to determine the date.

6. A device according to claim 4, wherein the clock circuit further includes means to provide an alarm indication at a predetermined time.

5 7. A device according to claim 1, further including a data port coupled to the processor that is used to transfer the value equal to the dosage stored in the memory device to an external data collection device.

10 8. A device according to claim 7, wherein the data port is used to transfer program instructions from an external programming device to the microprocessor.

15 9. A medical device, comprising:  
a medication injector for injecting a dosage of a medication;  
a blood characteristic monitor for analyzing a blood sample;  
a processor coupled to the medication injector and the blood characteristic monitor, wherein the processor determines a value  
20 equal to the dosage of the medication to be injected by the medication injector, and wherein the processor determines blood characteristics from the blood sample analyzed by the blood characteristic monitor.

25 10. A device according to claim 9, further including a memory device coupled to the processor to store the value equal to the dosage and the blood characteristics determined by the processor.

*Sub A1*  
11. A device according to claim 10, further including a receptacle capable of holding the medication and an injection mechanism having an actuator knob for setting the dosage of the medication to be administered by the medication injector and a  
5 drive mechanism coupled between the actuator and the receptacle to inject the set dosage of the medication, wherein the actuator of the injection mechanism triggers the drive mechanism to administer the injection of the medication held in the receptacle.

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12. A device according to claim 10, further including a display device coupled to the processor to display the value equal to the dosage and the blood characteristics determined by the processor.

*Sub A2*  
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13. A device according to claim 12, further including a clock circuit coupled to the processor for determining the time, wherein the time is stored in the memory device with the value equal to the dosage and the blood characteristics determined by  
20 the processor, and wherein the time is displayed on the display device.

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14. A device according to claim 13, wherein the clock circuit further includes means to determine the date.

15. A device according to claim 13, wherein the clock circuit further includes means to provide an alarm indication at a predetermined time.

16. A device according to claim 10, further including a data port coupled to the processor that is used to transfer the value equal to the dosage stored in the memory device to an external data collection device.

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17. A device according to claim 9, further including a data port coupled to the processor that is used to transfer program instructions from an external programming device to the processor.

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*Sub B2* 18. A disposable needle for a pen-type injector, the needle comprising:

15 a base adapted to be coupled to a pen-type injector;  
an injection needle having a injection end and a connecting end, the connecting end being coupled to the base; and  
20 a hollow cylindrical cover having an open end and an opposite connecting end, the opposite connecting end being coupled to the base such that the injection needle is disposed in the center of the open end of the hollow cylindrical cover with the connecting end of the injection needle inside the hollow cylindrical cover and the injection end of the injection needle extends beyond the open end of the hollow cylindrical cover.

25 19. A needle according to claim 18, wherein the hollow cylindrical cover is shorter in length than the injection needle such that the injection end of the injection needle can only penetrate to a predetermined depth beneath an injection site.

30 20. A needle according to claim 18, wherein the open end of the hollow cylindrical cover is sized to pinch together an opening at an injection site to substantially eliminate bleeding.

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21. A portable blood monitor, comprising:  
a housing sized and adapted to be worn on a wrist;  
a clock contained in the housing for measuring time;  
a blood characteristic monitor contained in the housing for  
5 analyzing a blood sample; and  
a processor coupled to the blood characteristic monitor and  
the clock, wherein the processor determines blood characteristics  
based on the analyzed blood sample from the blood characteristic  
monitor, and wherein the processor uses the measure of the time  
10 from the clock to identify when the blood characteristics were  
determined.

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22. A monitor according to claim 21, further including a  
memory storage device coupled to the processor for storing the  
15 measure of time from the clock and the blood characteristics  
determined by the processor.

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23. A monitor according to claim 22, further including a  
display device coupled to the processor to display the measure of  
20 the time from the clock and the blood level characteristics  
determined by the processor.

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24. A monitor according to claim 21, wherein the clock  
circuit further includes means to determine the date.

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25. A monitor according to claim 21, wherein the clock  
circuit further includes means to provide an alarm indication at  
a predetermined time.

<sup>27</sup>  
~~26~~. A monitor according to claim ~~22~~<sup>25</sup>, further including a data port coupled to the processor that is ~~used~~ to transfer measure of the time and the blood characteristics stored in the memory device to an external data collection device.

5       <sup>31</sup>  
~~27~~. A monitor according to claim ~~28~~<sup>30</sup>, wherein the data port uses infrared energy to transfer the measure of the time and the blood characteristics.

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~~28~~. A monitor according to claim ~~21~~<sup>24</sup>, further including a data port coupled to the processor that is used to transfer program instructions from an external programming device to the processor.

15       <sup>32</sup>  
~~29~~. A monitor according to claim ~~28~~<sup>30</sup>, wherein the data port uses infrared energy to transfer the program instructions.